A STUDY OF ACTIVE FEDERAL EMPLOYEES WHO REENROLLED IN A HEALTH MAINTENANCE ORGANIZATION AFTER HAVING PREVIOUSLY DISENROLLED

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A Study of Active Federal Employees Who Reenrolled in an Health Maintenance Organization After Having Previously Disenrolled

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Major: Health Care Administration

Abstract

The purpose of this study was to examine the relationship of certain demographic factors in members of the Federal Employee Health Benefit Plan (FEHBP) to their reasons for reenrollment in a federally qualified, group model health maintenance organization (HMO).

Demographic factors were found to be independent of reasons for disenrollment at the $p<.01$ level for all factors except length of prior enrollment.

CHAPTER I

INTRODUCTION

A relatively new but growing segment of the United States' health insurance market is the health maintenance organization or HMO. As late as 1970, health maintenance organizations had only 3 million members in 33 plans nationwide (Boland, 1985). By 1980, with some help from the Nixon administration in the early 1970's and the Carter administration in the late 1970's (Starr, 1982), HMO membership had reached nine million, and the number of plans had increased to 236.

Department of Health and Human Services (DHHS) Secretary Joseph Califano spoke for President Carter on the issue of increased reliance on HMO's: "We intend to make it possible for every American citizen to have the option of joining a health maintenance organization" (Rhein, 1978, 76). By 1990, HMO membership was projected to reach 34.7 million, a ten-fold increase over a 20-year period (Wrightson, Genuardi and Stephens, 1987).

For a health insurance carrier, whether HMO or indemnity in structure, to survive and earn a profit, the carrier must acquire new members that are young, or low-resource utilizing, or (ideally) both. If the carrier already has such members, it must attempt to keep them as

members for as long as their health resource consumption does not exceed the community average.

This last aspect of HMO management focus -- member retention -- is necessary for the HMO to attain economies of scale in its delivery of services and to spread the insurance risk as widely as possible across a member population (Scotti, Bonner and Wiman, 1986).

Member attraction and retention are most easily studied in the context of the annual enrollment process ("Open Season") for employees. While most studies have focused on disenrollment and its causes, relatively few studies have focused on reenrollment by former members. Given the importance of the member attraction facet of HMO's attraction-retention need, studies of member re-enrollment are therefore timely and valuable.

Problem Statement

The purposes of this study were to examine the relationships of certain demographic factors in active Federal employees obtaining health insurance for their families through the Federal Employee Health Benefit Program[1] in the Temple-Belton-Killeen area of Central Texas to member-expressed reasons for reenrollment behavior among the active Federal employees.

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[1]The HMO involved in this study is Federally Qualified. In contrast to large private employers and States (including Texas), the Federal Employee Health Benefit Program does not require Federal Qualification.

Assumptions

For the purpose of this study, the following assumptions were made:

1. All subjects who returned the questionnaire responded honestly.

2. The levels of reliability and validity of the instrument used to measure reenrollment reasons were adequate.

3. The reenrollment decision is a natural subset within the Berki and Ashcraft (1980) framework for analysis of enrollment decisions concerning health insurance.

Hypotheses

The hypotheses of this study were:

1. Reasons for reenrollment decisions among active Federal employees obtaining health insurance for their families through the Federal Employee Health Benefit Program in the Temple-Belton-Killeen area of Central Texas are dependent on certain underlying demographic factors.

2. Reasons for reenrollment decisions among active Federal employees obtaining health insurance for their families through the Federal Employee Health Benefit Program in the Temple-Belton-Killeen area of Central Texas are dependent on the length of prior membership in the HMO studied.

Definition of Terms[2]

Health Maintenance Organization (HMO) is defined as an organized system of health care that provides directly or arranges for a comprehensive range of basic and supplemental health care services to a voluntarily enrolled group of persons in a geographic area under a prepayment plan.

Disenrollment is defined as an individual's discontinuation of membership in a group health insurance program.

Involuntary Disenrollment is defined as an individual's discontinuation of membership in a group health insurance program, with that discontinuation not coming as a result of the individual's preference, but rather as a function of such factors as (a) the loss of one's employment with the employer through which the group health insurance was obtained, or (b) the termination of such group health insurance by the employer.

Voluntary Disenrollment is defined as an individual's discontinuation of membership in a group health insurance program, with that discontinuation coming as a result of the individual's preference, most commonly through the choice of another

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[2]Sources for these definitions were Berki and Ashcraft (1980), and Sutton and Sorbo (1983).

coverage option in a multiple option annual coverage renewal period ("Open Season").

Insurance Characteristics are defined as the features of health insurance relating to the cost of that coverage, i.e. benefit package, out-of-pocket use price, and premium price.

Risk Factors are defined as the demographic factors most commonly affecting health service utilization, i.e. family size, family age, chronic and acute conditions, perceived health state, health concern, and prior health service utilization.

Significance of the Study

In recent years the issue of voluntary disenrollment among HMO membership has received considerable attention in the literature. Because of concerns about disenrollment levels, the majority of such studies have focused on the identification of causes for voluntary disenrollment. Almost no studies have focused on the causation underlying the reenrollment phenomenon, where former members return to a prior health coverage. Because this re-attraction of former members is as beneficial for an HMO as the attraction of new members, a study of reenrollment behavior appears necessary.

Design of the Study

Population

The population for the study was families of active Federal employees who had reenrolled in the Scott and White Health Plan, a group model HMO, in the 1991 Open Season, after having disenrolled during the 1990 Open Season.

Instrument

A mailed questionnaire was developed to question the re-enrolling population on their reasons for reenrolling in the Scott and White Health Plan after having previously disenrolled. In addition, demographic data on the reenrolling population was acquired from Scott and White Health Plan records. This instrument was adapted from surveys developed internally by Scott and White Health Plan, and has not been used in other studies.

CHAPTER II

REVIEW OF LITERATURE

Introduction

A review of literature was conducted to identify the theoretical framework and research findings regarding the relationships of certain demographic factors in members of the Federal Employee Health Benefit Plan (FEHBP) to their reasons for reenrollment in a specific federally qualified, group model health maintenance organization (HMO). The review is presented in four sections.

The first three sections review the literature regarding health insurance and human needs, the Berki and Ashcraft (1980) model, and HMO's and the threat of disenrollment. The final section reviews research findings relevant to the relationships of certain demographic factors to member-expressed reasons for reenrollment behavior.

Health Insurance

Health insurance has been an important commodity for American consumers since its relatively late arrival in the United States in the 20th century. Health insurance is also important to employers, since it now ranks as the third highest cost for American manufacturers (Heisler, Jones and Benham, 1988). The importance of health insurance relies on

three key factors: (1) the need to avoid medical indigence; (2) the need to ensure access to the health care delivery system; and (3) the need to plan and budget one's finances.

The first factor, the need to avoid medical indigence, is a relatively recent phenomenon. The medically indigent are those employed Americans whose employers (or themselves, in the case of the self-employed) do not provide health insurance as a benefit of employment, and whose income is not sufficient to pay for the very high cost of health care. Arrow (1963) referred to this urgent need as the "adaptation to the existence of uncertainty in . . . the incidence of disease" (943).

The second factor, the need to assure access to the health care delivery system, has also become more problematic in recent years. The movement toward "for-profit" health care, and the increased financial pressure on providers caused by third-party payor discounts have produced a delivery system that has little room for non-payers (Starr, 1984). A recent study of patient transfers in Chicago makes this access problem apparent (Schiff et al, 1986). Of patients transferred to Cook County's public[3]

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[3]Health insurance based on employment continues to omit a great portion of the U.S. population due to (a) work force mobility, and (b) the shortfall in such coverage in the rapidly increasing service sector of the economy. This coverage shortfall threatens the "managed competition" approaches to universal health care (Enthoven, 1988, 1989a, 1989b), since such approaches rely heavily on employment-based coverage.

hospital, 81 percent had no insurance, a factor traditionally related to employment status.

The third factor, the need to plan and budget one's finances, is more generally related to the overall concept of insurance than to the more specific concept of health insurance. Arrow (1963) suggested that the value of insurance is directly related to the level of uncertainty in the risk being insured against. Given Arrow's previous quote on the uncertainty of disease incidence, this factor alone suggests that health insurance would be extremely valuable to consumers. This viewpoint reappeared in a later study where respondents focused on the benefit of prepayment (health insurance) as "knowing medical costs in advance" (Tessler and Mechanic, 1975, 154).

The importance of health insurance is best examined within the context of an accepted framework of human need. Maslow's need hierarchy theory (1943) describes five categories of need: physiological needs (survival needs such as food and water); safety and security needs (including economic security); affection and social activity needs (the need for association, companionship and friendship); esteem and status needs (stemming from recognition and approval by others; and self-realization needs (the need for achievement and mastery).

Clearly the attraction of health insurance, as described in the three needs previously listed, lies within

the sphere of Maslow's safety and security needs as a function of economic security. Both the need to avoid medical indigence, and the need to plan and budget one's finances fall clearly within the spectrum of economic security. The third need addressed by health insurance, the need to ensure access to the health care delivery system, is somewhat more indirect. If a consumer is denied access to the health care delivery system for lack of health insurance, the potential physical or psychological incapacity could materially hinder his or her ability to earn income or, worst case, retain a job.

The manner in which health insurance is purchased is also relevant to this study. The standard enrollment period for health insurance is traditionally an annual process, open to all active employees, and often to retired employees of larger employers. There is typically some distribution of cost, coverage and benefit information on each health insurance option offered. Many employers use the annual enrollment process to enroll or reenroll employees in the employer's entire range of benefit programs, since the benefit decisions are often related. Such a process meets the multiple elements of Enthoven's (1980) "fair" economic competition test.

Most employers, even those using the annual enrollment process for all benefit programs, approach health insurance as very important feature, since health insurance is now the

third highest cost for American manufacturers (Heisler et al, 1988).

Before discussing annual enrollment alterative outcomes, some attention must be paid to the problem insurers face in attempting to maintain a membership that uses an average amount of health care services.

For a health insurance carrier, whether HMO or indemnity in structure, to survive and earn a profit, that carrier must acquire new members that are young, or low-resource utilizing, or (ideally) both. If the carrier already has such members, the carrier must attempt to keep them as members for as long as their health status remains good.

It would seem that this problem would be bothersome to all types of insurance carriers, but numerous writers have focused on HMOs in discussing the problem. O'Connor (1991), ostensibly an apologist for HMOs, recites employer complaints about HMOs at some length. HMOs are accused of attracting younger, healthier employees to their coverage because the HMO generally has no up-front deductibles or coinsurance features. First-dollar coverage is appealing to the young, since their lower income level makes it difficult for them to self-insure for even relatively small health care expenses.

Several authors have argued that the impact of first dollar coverage is less important than the impact of the

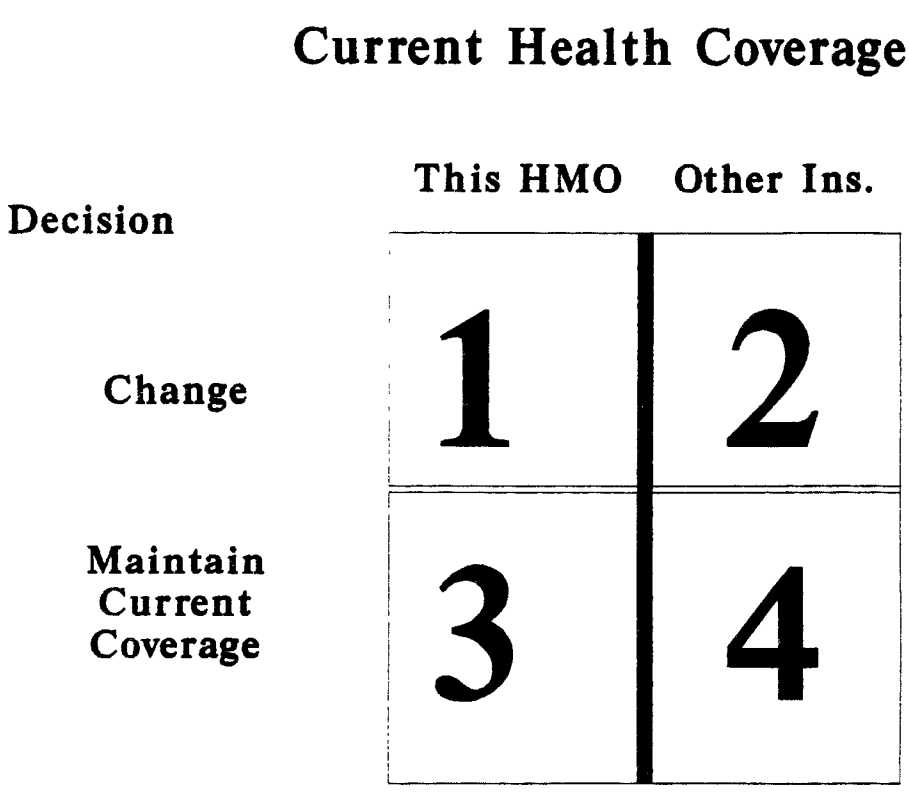
demonstrated tendency of older subscribers to remain with a company's long-time, often indemnity, coverage (Shimshak, DeFuria, DiGiorgio and Getson, 1988). When older subscribers remain with an indemnity carrier, a situation can develop where those older subscribers incur above-average medical costs, which force the carrier to raise its premiums above the market, thereby driving out all of its subscribers except the older, more expensive ones.

Shimshak et al (1988) also argued that a major factor in HMOs (alleged) attraction of a disproportionate number of young members is the HMO's offering of a broad and comprehensive range of services. These services have traditionally included physicals, preventive services, and well baby care, all of which are usually excluded by indemnity plans. Certainly these features would appeal to young families. The Shimshak et al (1988) argument appears to be supported by an earlier study that reported a focus by consumers on specific aspects such as maternity coverage in the HMO benefit package, (Tessler and Mechanic, 1975).

Given the aforementioned conflict, consumer responses to annual enrollment processes are important to all health insurers, including HMOs.

The obvious model of health coverage choice options is the cube. A simple decision cube, Figure 1, describes the options available to the employee, from the carrier perspective, without considering whether the employee has

Figure 1: Health Coverage Choice Simple Decision Cube



previously held coverage through that carrier. A relatively more complex decision cube, Figure 2, describes the option available to the employee, from the carrier perspective, including consideration as to whether the employee has ever held coverage through that carrier. The additional complexity of this choice is reflected in an additional dimension for the cube.

Whether one focuses on the more common "simple" model or the complex model required for this study, the issue is clearly one of enrollment decisions. In considering the spectrum of enrollment decisions, one must use a framework to analyze and understand them.

The Berki and Ashcraft Model

Berki and Ashcraft (1980) focused on the relationship between enrollment decisions and consumer expectations. With that relationship as background, they describe enrollment issues as "a set of iterative, interrelated decisions. . . 1) the decision to enroll; 2) the decision to remain enrolled; and 3) the decision to utilize services" (589). Since this study focused on issues of disenrollment and enrollment, rather than resource utilization, the third decision will not be covered except in a peripheral fashion.

Viewing the model in the aggregate (Figure 3), Berki and Ashcraft (1980) have addressed two aspects of the consumer's choice: (1) the insurance side, and (2) the delivery system side. The dichotomy in the model is driven

Figure 2: Health Coverage Choice
Complex Decision Cube

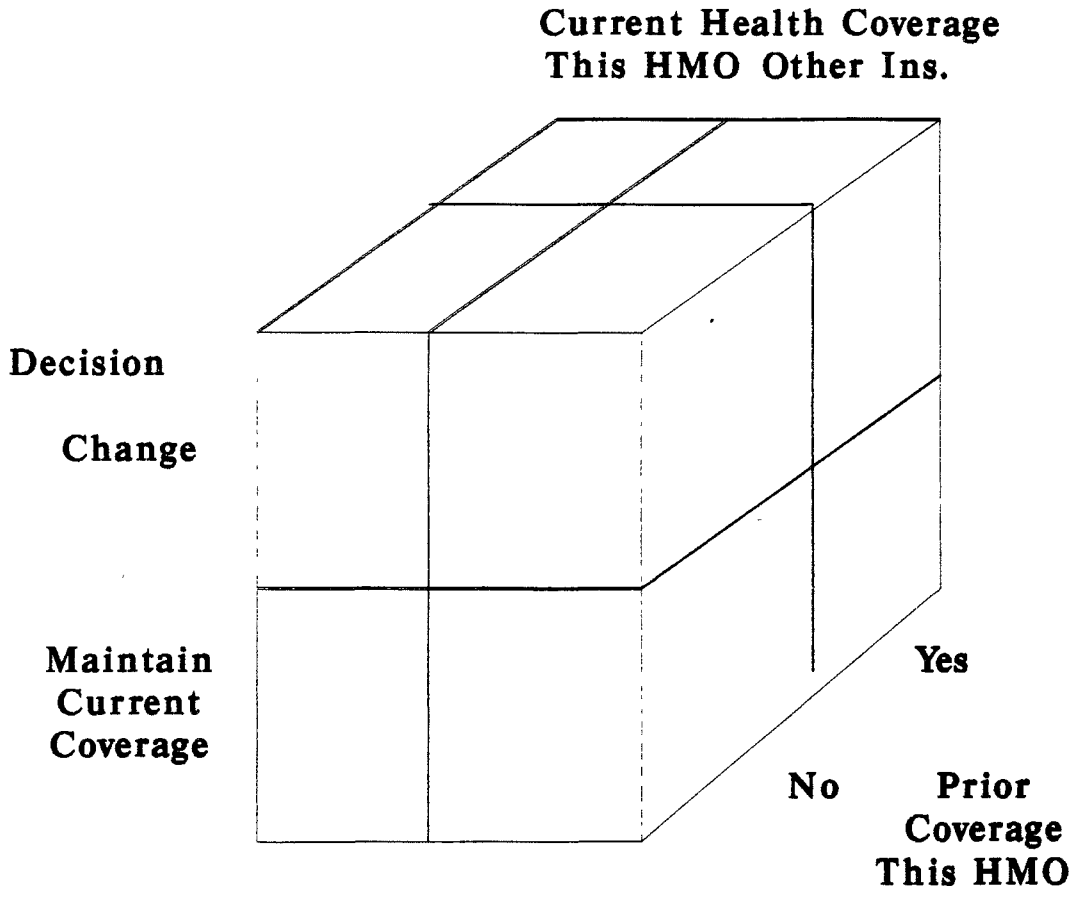
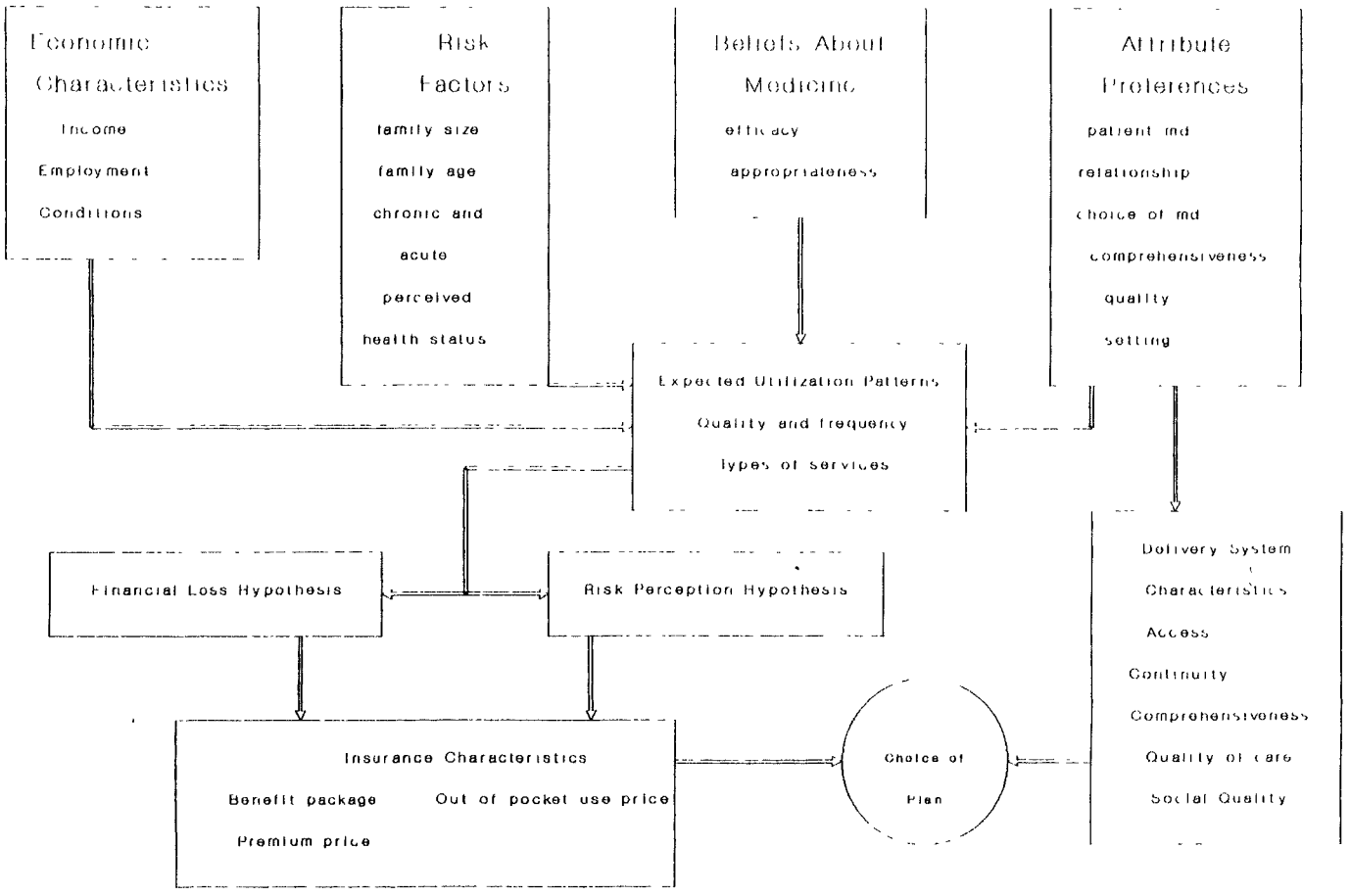


Figure 3: Framework for Analysis of Enrollment Decisions

(Source Berki and Ashcraft (1980)



by the nature of HMO enrollment, which is a simultaneous choice of both coverage type and the delivery system that will provide the services being covered. The nature of HMOs, as combined insurer-caregiver systems, necessitates this two-sided approach.

The insurance characteristics appear to be fairly straight-forward: (a) the benefit package; (b) the premium price; and (c) the out-of-pocket price for the consumer. The concept of a benefit package is a central concept in health insurance, describing the health care services whose cost (all or part) will be paid directly to the provider or reimbursed after the fact to the consumer. Premium price refers more directly to the patient portion of the monthly premium, rather than the total premium charged to an employer for employment-related coverage. Examples of premium prices for Federal employees are displayed in Table 1 (1990) and Table 2 (1991).

The third "insurance characteristic", out-of-pocket use price for the consumer, describes the cost-sharing provisions of the health insurance program. Specifically, these provisions include such common features as deductibles, copayments, and benefit ceilings.

Despite the apparently straightforward nature of these insurance characteristics, at least one study has suggested that the characteristics interact with consumer perceptions of health and financial risk (Wollstadt, Shapiro and Rice,

Table 1: SWHP Disenrollment, 1990
Monthly Premiumium Comparisons

	Single	Family
Mail Handlers	30.54	68.07
Blue Cross/Blue Shield	36.66	77.03
PCA	34.63	138.90
GEHA	41.52	82.22
SWHP	36.16	131.08

Source: SWHP survey records.

Table 2: SWHP Disenrollment, 1990
Reasons for Disenrollment

Answer	Respondents	Percent
Rates increased/ benefits decreased	350	44.0
Rates increased	216	27.0
Benefits decreased	92	11.5
Hospital co-pay	53	6.5
Leaving service area	25	3.0
Freedom of choice	22	3.0
No dental coverage	19	2.5
Other	19	2.5
Total	796	100.0

Source: SWHP survey records.

1978). The relevance of that study's results is limited by its focus on Medicaid patients, whose actions may not be generalizable to the wider, non-indigent population.

The other side of the Berki and Ashcraft (1980) model, delivery system characteristics, is described as covering "organizational, locational, and social attributes" (596). Unlike the insurance characteristics described earlier as "straightforward", the delivery system characteristics are viewed as more abstract measures of coverage options (Wollstadt et al, 1978).

With the significantly different types of HMO extant (group model, staff model and IPA), it should be apparent to the reader that Berki and Ashcraft's (1980) "delivery system characteristics" will vary directly within underlying delivery systems. Given that degree of variability, any study focusing on delivery system characteristics would simultaneously limit the applicability of its results to certain models of health care coverage, while excluding all others. As discussed later in this study, the HMO's questionnaire for Federal disenrollees the prior year also pointed to insurance cost issues (insurance characteristics) as a major factor in the original disenrollment. For those reasons, this study is focused on the Berki and Ashcraft (1980) "insurance characteristics": benefit packages, out-of-pocket use prices, and premium prices.

In terms of the usefulness of these listings of plan

characteristics, how are various features viewed by potential enrollees? While studies in this area are limited, the results are strongly suggestive of a lack of consumer knowledge (Moustafa, Hopkins and Klein, 1971). First, survey respondents were not well aware of the benefits provided by their plan. This result is particularly telling since the benefit area lies within the more "straight-forward" area of insurance characteristics in the Berki and Ashcraft (1980) model.

Second, despite their lack of knowledge with respect to the benefits provided by their plan, survey respondents tended to believe that HMOs offered more comprehensive coverage.[4] Consistent with that belief, survey respondents tended to believe that indemnity carriers offered less comprehensive coverage. Based on the work of Shimshak et al (1988), survey respondents were likely to be correct in holding this belief. One wonders how the respondents reached this conclusion without being well informed as to the benefits provided by their current coverage.

A more recent survey (Benefits Watch Survey) from 1991[5] tends to support the findings of Moustafa et al (1971). Fewer than half of the respondents to the recent survey

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[4]This finding also occurred in Juba, Lave and Shaddy (1980), and Tessler and Mechanic (1975).

[5]Study based on telephone interviews from March 22 to April 11, 1991, using a sample of 1,000 insured employees, randomly selected from all available telephone households in 48 contiguous United States.

described themselves as "completely" understanding the term "co-insurance". Along similar lines, less than half of the respondents described themselves as "completely" understanding the term "copayment". Only one in four respondents described themselves as understanding the concept of "lifetime and annual caps", and one in five said they did not know whether "mental health care" was part of their current health plan. Since these four items are clear examples of benefit issues or exclusions, insureds clearly continue to lack a clear understanding of their health care coverage.

Berki and Ashcraft (1980) also developed their model to describe two distinct types of disenrollment behavior: voluntary and involuntary. Writers such as Griffith[6], Baloff and Spitznagel (1984) have argued that the two types of disenrollment are different in several quantifiable features, including start-up utilization curves. The researchers were unable to determine (a) whether the differences identified in their study were attributable to underlying differences in socioeconomic status, and (b) whether the types of services utilized by the three different groups varied in a statistically significant fashion longitudinally over time.

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[6]This study of the 18,000 member Medical Care Group of St. Louis focused on three categories of HMO members: continuous enrollees, voluntary disenrollees, and involuntary disenrollees.

With respect to other limitations on the application of the Berki and Ashcraft (1980) model, this study focuses on family contracts, rather than all contracts reenrolling in the 1991 annual enrollment process. Tables 3 and 4 provide the reason for this limitation: during the 1990 annual enrollment process, 86% of disenrolling Federal employees came from family contracts; and during the 1991 annual enrollment process, 85% of disenrolling Federal employees came from family contracts.

As discussed elsewhere in this study, a focus on family membership brings with it some risk of results being clouded by the availability of other health insurance through a spouse's employer. This issue has been addressed, at least peripherally, by including a question on the instrument to identify households with additional employers besides the Federal government.

This data is at least modestly suggestive of some issue within family contracts. In addition, the exclusion of single contracts acts to limit the population studied to a more manageable group, while leaving the majority of the disenrolled/ reenrolled population intact.

The study now confronts the relatively more narrow focus of the altered Berki and Ashcraft (1980) model, focusing on family contract, active Federal disenrollees who subsequently reenroll in the same HMO. To narrow the focus of this study from the consideration of health insurers in

Table 3: SWHP Disenrollment, 1990
Contract Types

	Respondents	Percent
Single	141	14.0
Family	845	86.0
Total	986	100.0

Source: SWHP records.

Table 4: SWHP Reenrollment, 1990
Contract Types

	Respondents	Percent
Single	34	15.0
Family	193	85.0
Total	227	100.0

Source: SWHP records.

general, the study must now address the importance of HMOs as a growing factor within health insurance.

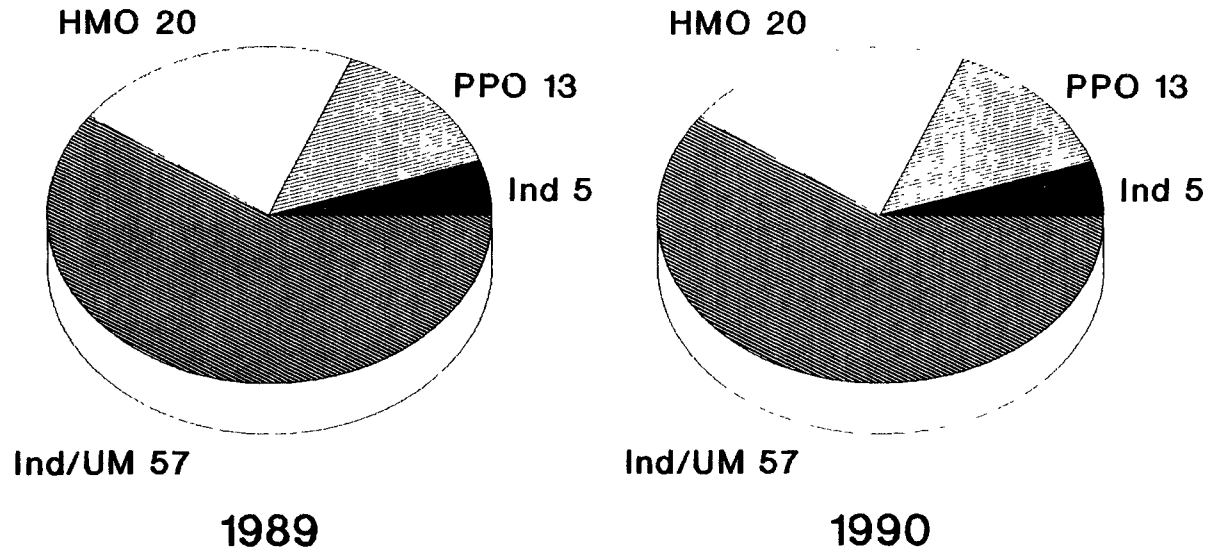
HMO's and the Threat of Disenrollment

Despite their relatively recent entry into the marketplace of health insurance, HMOs have captured substantial market share.

As late as 1970, health maintenance organizations had only three million members in 33 HMOs nationwide. By 1980, with some help from the Nixon administration in the early 1970s (Starr, 1982) and the Carter administration in the late 1970s, HMO membership had reached nine million, and the number of HMOs had increased to 236. DHHS Secretary Joseph Califano promised "We intend to make it possible for every American citizen to have the option of joining a health maintenance organization" (Rhein, 1978, 76). By 1990, HMO membership had reached 34.7 million, ten-fold greater over a 20-year period (Wrightson et al, 1987). Despite the high and rapidly increasing membership in HMOs, the majority of health insurance in this country continues to be obtained through other vehicles.

Understanding the overall importance of HMOs requires a combined nationwide focus. As a measure of HMO market share, Figure 4 describes the relative importance of various coverage vehicles in 1989 and 1990. By 1990, HMOs represented 20 percent of all health care coverage in the United States, a substantial increase even from the 17

Figure 4: Market Share of Various Types of Health Insurance, 1989 and 1990



Ind = Indemnity; Ind/UM = Indemnity + utilization management

Source: Sullivan and Rice (1991).

percent market share they held in 1989.

A better measure of change in the health insurance market is the substantially reduced market share held by traditional indemnity coverage -- what was traditionally called Blue Cross. By 1990, traditional indemnity carriers had only five percent of the health insurance market, a minuscule figure when one considers that Blue Cross held almost all of the market, except Kaiser's share, in the early 1950s.

Dr. Arnold Relman (1990) of the New England Journal of Medicine described HMOs as "an environment favorable to the practice of cost-effective medicine and the maintenance of professional standards" (991). The latter aspect refers to the extensive use of quality assurance and utilization review in the group practices that formed the first HMOs -- prepaid group practices such as Kaiser.

On the quality side, HMOs have demonstrated a level of quality of care equal to or greater than comparable indemnity coverage in their areas (Wolinsky and Marder, 1985). Several studies by Luft (1978a, 1978b, 1980) have supported this view of HMO quality. Luft suggests that HMOs appear to limit the discretionary use of health care, perhaps by directing such care toward the lower cost ambulatory sector.

Luft also suggests that neither HMOs nor indemnity carriers have all the right answers for health care

utilization: HMOs may encourage "skimping" on cases while indemnity carriers may encourage "overtreatment" of discretionary cases.[7] Quality data from other sources (Wolinsky and Marder, 1985) makes this last assertion somewhat questionable.

With the importance of HMOs established, researchers have explored the issue of disenrollment at some length. Any discussion of the importance of disenrollment to HMOs must begin with some understanding of the historical argument re the relationship between health insurers' profitability and membership levels. Scott et al (1986) offered a clear statement of that relationship, with an emphasis on the HMO segment of the health insurer marketplace:

> "It is widely recognized that an HMO's survival is determined fundamentally by its ability to enroll, and retain, a sufficiently large membership base to attain economies of scale in the provision of health care services and to spread the insurance risk" (7).

HMOs, like other service vendors, traditionally focused their scale efforts toward attracting new membership. The similarity of this HMO approach to approaches adopted by

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[7]Luft (1981) also takes the somewhat curious position that HMOs benefit from positive selection of members, enrolling persons with less medical needs. This position ignores the potential for adverse selection in the common HMO practice of covering pre-existing conditions while indemnity carriers enforce waiting periods.

other service vendors is supported by the virtual absence of published research on the retention of service customers when contrasted with the extensive research on attracting new customers to such services (Schneider, 1980). Several writers have taken different tacks in approaching this issue by advocating more of a strategic focus on retaining current membership.[8] A common argument in this area is that the HMO should view the marketing process as being one of "having customers", rather than just "acquiring customers".

While the cost of membership retention has not been well quantified in the literature, several authors have explored its counterpart: the cost of disenrollment. These authors have argued that disenrollment exerts a direct influence on the level of financial risk for the HMO as represented by the membership.[9] If younger, healthier members disenroll and are not replaced by comparable new enrollees, the HMO might find itself left with an older, higher risk population. The HMO would then be caught between premium competition in the marketplace and its internal need to capture sufficient premium revenues to

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[8]Recent research in this area comes from Scotti et al, (1984) and Rosenberg and Czepiel (1984). In a similar vein, Berry (1983) argued persuasively that a focus on "new membership only" is wasteful, due to the incremental costs of adding new membership, as the HMO incurs additional administration and recordkeeping burdens.

[9]Recent research in this area comes from DeFuria and Shimshak (1990), Lewis (1984), and Wrightson et al, (1987), each of whom wrote on the impact of disenrollment on median membership age.

cover the costs of caring for a population of above-median age. The impact of such aging was described by Dever (1984) and Ibrahim (1985), among others, who defined age as the strongest single determinant of health status. Thus it can be argued that disenrollment can increase the HMO's financial risk by increasing median membership age.

Disenrollment is also costly to HMOs in terms of administrative processing costs. A variety of membership records must be adjusted on a timely basis so that provider groups and provider hospitals are not financially disadvantaged by a lack of information about patient payor status.

Disenrollment immediately produces a shortfall in premium income for the HMO, thereby increasing the risk that the HMO will not achieve its revenue projections. Failure to meet such financial goals imperils arrangements such as loan covenants and the financial ratios common to indenture documents. These failures to meet financial targets can also increase consumer concerns, given the public dissemination of financial data in today's business press. Increased consumer concern brought on by such information being made public can have the effect of increasing disenrollment even more: the self-fulfilling prophecy.

This negative publicity is critical in health insurance because of the importance of word-of-mouth marketing. Studies have identified recommendations from friends and

relatives as important factors in consumers' decisions to disenroll.[10]

In addition to the impact of negative publicity, disenrollment works to interrupt the continuity and quality of care received by HMO members, can interfere with the HMO's ability to forecast staffing and facility needs in an accurate fashion, and serves as an obvious negative index of enrollee satisfaction with the HMO.

The other side of disenrollment is the disenrollment-generated need to attract new members to the HMO. Griffith, et al (1984) offered one of the better descriptions of the downside risk of new enrollment: the phenomenon of startup utilization. "Startup utilization" refers to the statistically significant higher initial utilization of health care services by new HMO enrollees.

Regardless of the status of membership, it has been demonstrated that HMO enrollees tend to use more health care services in the earlier periods of enrollment than at any other time during their membership, after adjusting for age and health status. This phenomenon creates a dilemma for the HMO. Failing to retain current members is expensive in terms of insurance risk and median age of membership, and traditional (obvious) remedial efforts such as attracting

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[10]Research in this area is admittedly dated. Excellent research has been published by Wollstadt et al, (1978), Moustafa et al, (1971), and Saward and Greenlick (1972), all of whom addressed the effect of family and peer pressure.

new enrollees can be equally disastrous from a cost standpoint.

Given these issues, disenrollment should be viewed as a costly and negative occurrence for an HMO. Regrettably, disenrollment is prevalent among HMOs, with membership turnover at historically high levels in recent years.[11]

Several factors have created these high turnover rates and the same factors, as they become more prevalent, are likely to increase them. As noted earlier, one of Enthoven's (1980) principles of fair economic competition required that employers provide their employees with sufficient choice to allow the employees to make cost-conscious decisions regarding their health insurance. Large employers have been responsive to Enthoven's challenge, so that increased numbers of HMO and indemnity plans are now being offered to their employees. Several studies have identified a direct relationship between disenrollment rates and the number of insurance choices available to consumers.[12]

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[11]Research in this area comes from Actuarial Research Corporation (1985 and 1987), with annual turnover rates of 10-15 percent and turnover rates as high as 33 percent reported by Sorensen and Wersinger (1981), Wollstadt et al (1978), and Travis, Russell and Cronin (1989).

[12]Research in this area comes from Long, Settle and Wrightson (1988) and Actuarial Research Corporation (1987), with the latter reporting a 47.8 percent increase in disenrollment that occurred in large measure as a result of a 60 percent increase in the number of health plans offered to employees.

One can then conclude, based on this section, that disenrollment is worthy of interest to HMOs, and worthy of study and explanation. Disenrollment is costly for the HMO and disenrollment is increasing in the marketplace. Certain obvious remedial responses to disenrollment, e.g. new member recruitment, are themselves costly to the HMO because of phenomena such as "start-up utilization". Finally, disenrollment is a natural consequence of the complexity present in the process of health care coverage choice, as described in the Berki and Ashcraft model (1980). A discussion of the research on this issue follows.

Published Research

The majority of research conducted in this area has focused on disenrollment, which is only tangentially associated with this study's focus on disenrollment/reenrollment behavior. Welch and Frank (1986) have suggested the following caveat: a researcher may not be able to infer the influence of a variable on enrollment from demonstrations of its influence on disenrollment.

Based on a study of homemaker services for the chronically ill (Weissert, Wan and Pellegrino, 1980), an HMO cannot guarantee success in retaining its membership simply by meeting the health care

requirements of the target population. In addition, consumer decisions to disenroll have been found to be related to dissatisfaction, sociodemographic characteristics, and alternative choices available to the member (Shimshak et al, 1988).

Weiss and Senf (1990) surveyed disenrollees on their reasons for disenrollment. Only 20.5 percent of respondents disenrolled as a function of the insurance characteristics of the plan, with the group split evenly between those concerned about the cost of the plan, and those concerned about coverage and benefit issues.

Grazier, Richardson, Martin and Diehr (1986) gathered data[13] suggesting that length of enrollment was inversely related to the likelihood of disenrollment, and that families with female members were more likely to enroll in an HMO.

A 1971 study by Moustafa et al focused on three aspects of enrollment-disenrollment behavior: (1)

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[13]This research included a side-by-side study and comparison of indemnity and HMO plans, with the authors suggesting that families may believe that the costs involved in making a change outweigh any benefits of that change. The authors attributed the association of female subscribers with HMOs to an apparent belief that HMOs have the broadest coverage for sterilization, conception and abortion, which appears to support Berki and Ashcraft's (1980) argument that enrollment decisions are based in part on consumer's expectations regarding their future use of, or need for, health care services.

reasons new enrollees gave for enrolling in a particular plan; (2) reasons disenrollees gave for disenrolling from a particular plan; and (3) relationships between demographic characteristics and the type of plan chosen. Almost half of new enrollees relied heavily on the plan's pamphlets and other promotional literature.[14] One out of seven new enrollees paid particular attention to breadth of coverage, while over half of disenrollees left a plan because it did not offer them sufficiently broad coverage. Almost one in five disenrollees left a plan because of premium cost. The only significant demographic data in this study pointed to a relationship between families and the desire for more comprehensive coverage.[15]

In particularly relevant work from 1982, Wersinger and Sorenson studied disenrollment motivation and demographics during a period where the HMO implemented a substantial rate increase. Almost half of the respondents to this survey reported that they had

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[14]This research suggests that the Federal Employee Health Benefit Program acts appropriately in carefully screening promotional materials distributed to Federal employees during the annual enrollment period. This requirement contrasts with FEHBP's failure to require Federal Qualification (noted earlier).

[15]As noted earlier, research by Shimshak et al (1988) included data suggesting strongly that families are correct in believing that HMOs offer more comprehensive coverage.

disenrolled for cost-related reasons.[16] Consistent with other studies, relatively few disenrollees came from either the older category (ages 35-64) or the youngest category (ages 0-4). Given the impact ascribed to higher median age, the retention of the older group was seen as putting the health plan at greater risk for above average health service use.

A study by Hennelly and Boxerman (1983) compared continuously enrolled members with voluntary disenrollees, with the authors concluding that:

> "Compared with disenrollees, continuously enrolled families are more likely to be nonwhite and larger, to have subscribers that are older and less educated (with jobs of lower status), (and) to have no alternative health insurance coverage" (1166).[17]

More recently a study by Wrightson et al (1987) determined that disenrollees were more likely to be younger, unmarried, have smaller families, if married,

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[16]"Cost-related reasons" referred primarily to premium increases; in a prior period where the health plan had not increased rates, only half as many respondents cited "cost-related reasons".

[17]The authors also offered an unusual parallel to earlier discussions regarding the influence of friends and relatives, coupling that factor with secondary coverage. Hennelly and Boxerman (1983b) suggested that the presence of family members covered by a different insurance plan may exacerbate the dissatisfaction expressed by some HMO members who would otherwise continue their HMO coverage.

and to have been enrolled for a shorter period than continuously enrolled respondents.[18]

The Wrightson et al (1987) study included a multivariate analysis suggesting that disenrollment rates are sensitive to changes in relative premium levels. Curiously enough, the data suggested that while increasing premiums can increase a disenrollment problem, decreasing premiums or holding them constant can have a much smaller impact in the opposite direction.

In summary, the Berki and Ashcraft (1980) model was used as a framework for analyzing enrollment decisions (Figure 3). That model draws a distinction between "insurance characteristics" such as premiums and other cost-related issues, and other characteristics, ranging from aspects of the delivery system to family income. As a subset of the health insurance market, HMOs are uniquely vulnerable to the impact of member disenrollment, in part due to the phenomenon of "startup utilization". Numerous researchers have focused on HMO disenrollment and its causation. Studies have linked disenrollment to

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[18]This study included seven HMOs which had been in operation for at least five years, all with membership of more than 40,000, and all Federally qualified. The authors used a standardized rate approach to remove any age/sex bias from utilization data. The study focused on underlying utilization characteristics.

dissatisfaction, sociodemographic characteristics, and the number of alternative choices available to HMO members.

CHAPTER III

METHODOLOGY

Introduction

The purposes of this study were to examine the relationships of certain demographic factors in active Federal employees obtaining health insurance for their families through the Federal Employee Health Benefit Program in the Temple-Belton-Killeen area of Central Texas to member-expressed reasons for reenrollment behavior among the active Federal employees. The survey for this study was conducted in February and March, 1992.

In this study, demographic factors were examined as independent variables, with member-expressed reasons for re-enrollment as the dependent variable. Demographic factors were further categorized into three areas: family size, length of prior HMO enrollment period, and age of family member responding to survey. Member-expressed reasons for reenrollment were partitioned into two categories: (1) the insurance characteristics described by Berki and Ashcraft (1980), and (2) all other factors. The insurance characteristics included: (a) the benefit package; (b) the premium price; and (c) the out-of-pocket price for

the consumer. The relationships between these variables are described graphically in Figure 3.

Instrument

The questionnaire used for this study was adapted from models used in prior surveys by Scott and White Health Plan marketing personnel. In addition to the data sought for this study, questions were included to meet the ongoing membership survey needs of the Scott and White Health Plan. These additional questions, not particularly germane to this study were included so that the Scott and White Health Plan would not be forced to send out additional surveys to the same group of re-enrollees.

The foundation for the survey instrument came from Dillman's (1978) writing on the social exchange approach to survey techniques. Dillman (1978) describes such questionnaires as extensions of the social exchange relationship, where the researcher is an intermediary between the person asked to contribute to the solution of an important problem. The survey respondents' reward then derives from the feeling that they have done something important to help solve a problem faced by them. In the case of this survey, specific language was included to inform respondents

that. . .

> "Any information you can give us will be used to help evaluate the health coverage we offer you each year."[19]

Procedure

The Statistics Package for Social Sciences (SPSS) was used as the primary software program for analyzing the data.

Subjects

The population for this study included all active Federal employee families who reenrolled in the Scott and White Health Plan during the 1991 annual enrollment process ("Open Season") after having disenrolled from the same plan during the 1990 Open Season.

A questionnaire was mailed to each subject family with a cover letter explaining the purpose of the study, and a stamped, self-addressed envelope. A follow-up postcard was mailed eight days after the initial mail-out. Follow-up questionnaires were mailed three weeks after the initial mail-out. A copy of the cover letter and follow-up letter are included in

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[19]A complete copy of the instrument's cover letter is included in Appendix A.

Data Collection

One hundred and forty-two families returned the questionnaire, for an initial response rate of 55 percent. Of these, fifty-three were incomplete and not used in the study. This reduced the adjusted response rate to 34.5 percent.

Analyses of Data

Descriptive Statistics

Completed surveys were coded to maintain the confidentiality of respondent identity within the database developed for statistical analysis. Within the surveys, responses to individual reenrollment questions were coded based on the numbering system used on the survey instrument. A single data record was created for each net respondent, including selected demographic factors and survey responses, to facilitate data analysis. Responses from the SWHP disenrollment survey (from the 1990 annual enrollment process) were included in each respondent's data record for analysis. Frequencies were computed for each of the responses to all questionnaire items.

Means, medians and ranges were computed for each of the numerically based questionnaire items: length of prior enrollment in years, and number of family members. Although frequencies were computed for the

multi-response, non-numeric items, e.g. 15 possible reasons for reenrollment, means and other descriptive statistics were not computed because the results would have been meaningless.

As an example, one response of 01 ("lower monthly premiums") and one response of 13 ("no paperwork") would yield a mean of 07 ("quick no hassle service"). To avoid such meaningless computation, and to simplify statistical analysis, the 15 possible responses were coded as 01 ("insurance characteristics") and 02 (other characteristics), using the nomenclature developed by Berki and Ashcraft (1980). A similar approach was used for other non-numeric data.

Correlations

To examine the relationship between variables such as length of prior membership, presence of other health insurance, family size, and response to disenrollment survey, Chi Square was used.

CHAPTER IV

PRESENTATION AND ANALYSIS OF DATA

Introduction

The purposes of this study were to examine the relationships of certain demographic factors in active Federal employees obtaining health insurance for their families through the Federal Employee Health Benefit Program in the Temple-Belton-Killeen area of Central Texas to member-expressed reasons for reenrollment behavior among the active Federal employees. This chapter addresses the study's hypotheses by analysis of the data and presentation of the findings.

First the specific hypotheses are presented. Second, frequency distributions of survey responses are presented. Third, cross-tabulations are presented to report the interrelationships between various demographic factors and reported reasons for reenrollment. Finally, Chi Square analysis and significance testing is presented on the survey responses.

The specific hypotheses of this study were:

1. Reasons for reenrollment decisions among active Federal employees obtaining health insurance for

their families through the Federal Employee Health Benefit Program in the Temple-Belton-Killeen area of Central Texas are dependent on certain underlying demographic factors.

2. Reasons for reenrollment decisions among active Federal employees obtaining health insurance for their families through the Federal Employee Health Benefit Program in the Temple-Belton-Killeen area of Central Texas are dependent on the length of prior membership in the HMO studied.

The questionnaire used for this study was adapted from models used in prior surveys by Scott and White Health Plan marketing personnel. The survey instrument was based on Dillman's (1978) social exchange approach to survey techniques.

Two hundred and twenty-seven questionnaires were distributed with one hundred and forty-two responses, for an initial response rate of 63 percent. Of these, fifty-three were not used because the questionnaire was incomplete. The remaining eighty-nine returns reflected an adjusted response rate of 39 percent.

Results

Frequency Distributions of Responses

To initially present the data, the frequency distribution of responses are displayed in Table 5.

Table 5. Response Distribution.

Response/Demographic Factor	Number	Percent
Reason for Disenrolling in 1990:		
Insurance Characteristics	78	88
Other Characteristics	3	3
Did Not Respond	8	9
Primary Reason for Reenrolling in 1991:		
Insurance Characteristics	72	81
Other Characteristics	17	19
Additional Reason for Reenrolling in 1991:		
Insurance Characteristics	12	13
Other Characteristics	45	51
Did Not Respond	32	36
Other Health Insurance for Family:		
Yes	18	20
No	63	71
Did Not Respond	8	9
Number of Family Members:		
Mean	3.1	
Median	3	
Range	2-8	
Prior Coverage with SWHP (Years):		
Mean	3.3	
Median	3	
Range	1-7	

Figures 5-10 graphically display the range of values for each response and demographic variable.

Seventy-eight respondents (88%) disenrolled in 1990 for reasons associated with "insurance characteristics", using the Berki and Ashcraft (1980) terminology. The most frequently stated reason for disenrolling was "higher premiums/ lower benefits" (response 02), which came from 42 respondents.

Seventy-two respondents (81%) reenrolled in 1991 for reasons associated with "insurance characteristics", again using the Berki and Ashcraft (1980) terminology. The most frequently stated reason for reenrolling was "lower monthly premiums" (response 01), which came from 37 respondents.

Forty-five respondents (51%) gave other than "insurance characteristics" reasons as additional reasons for reenrolling in 1991. The most frequently stated additional reason for reenrolling was "no paperwork" (response 06), which came from 20 respondents.

Only eighteen respondents (20%) reported their family had other health insurance through someone other than the Federal employee. Prior surveys by SWHP have indicated that Federal employees tend to underreport the availability of secondary insurance.

Respondents' average family size was 3.1, with a

Figure 5: Reasons for Disenrollment 1990 Disenrollees, 1991 Reenrollees

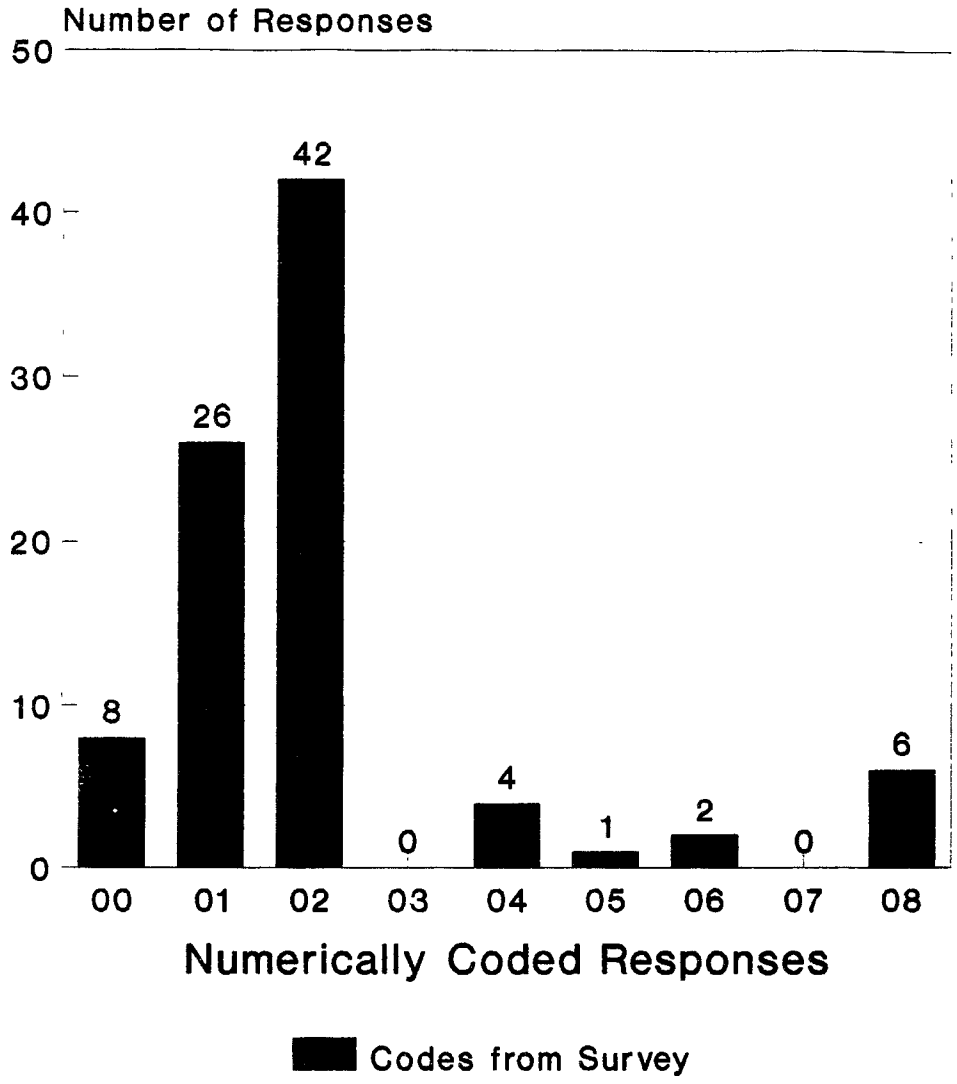


Figure 6: Family Size
1990 Disenrollees, 1991 Reenrollees

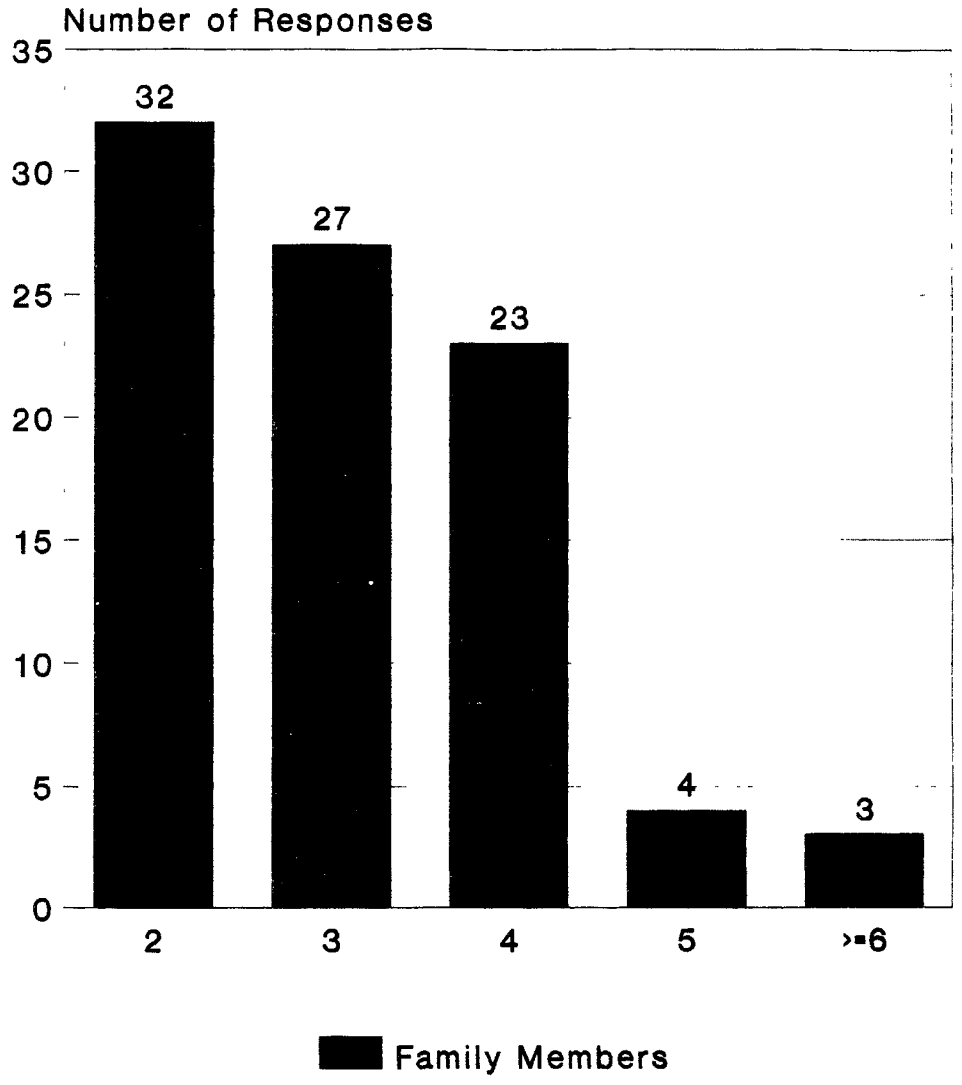


Figure 7: Length of Prior Membership (Years)

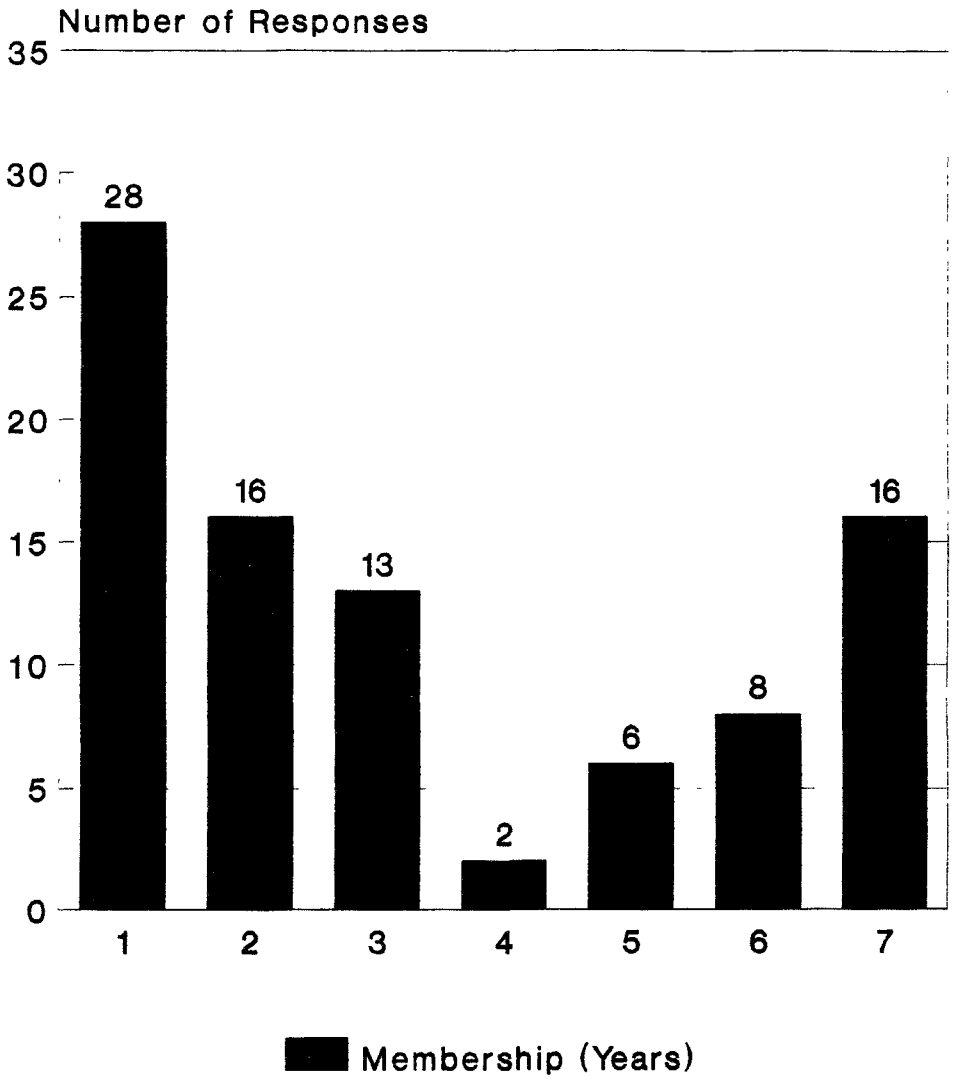


Figure 8: Main Reason for Reenrollment 1990 Disenrollees, 1991 Reenrollees

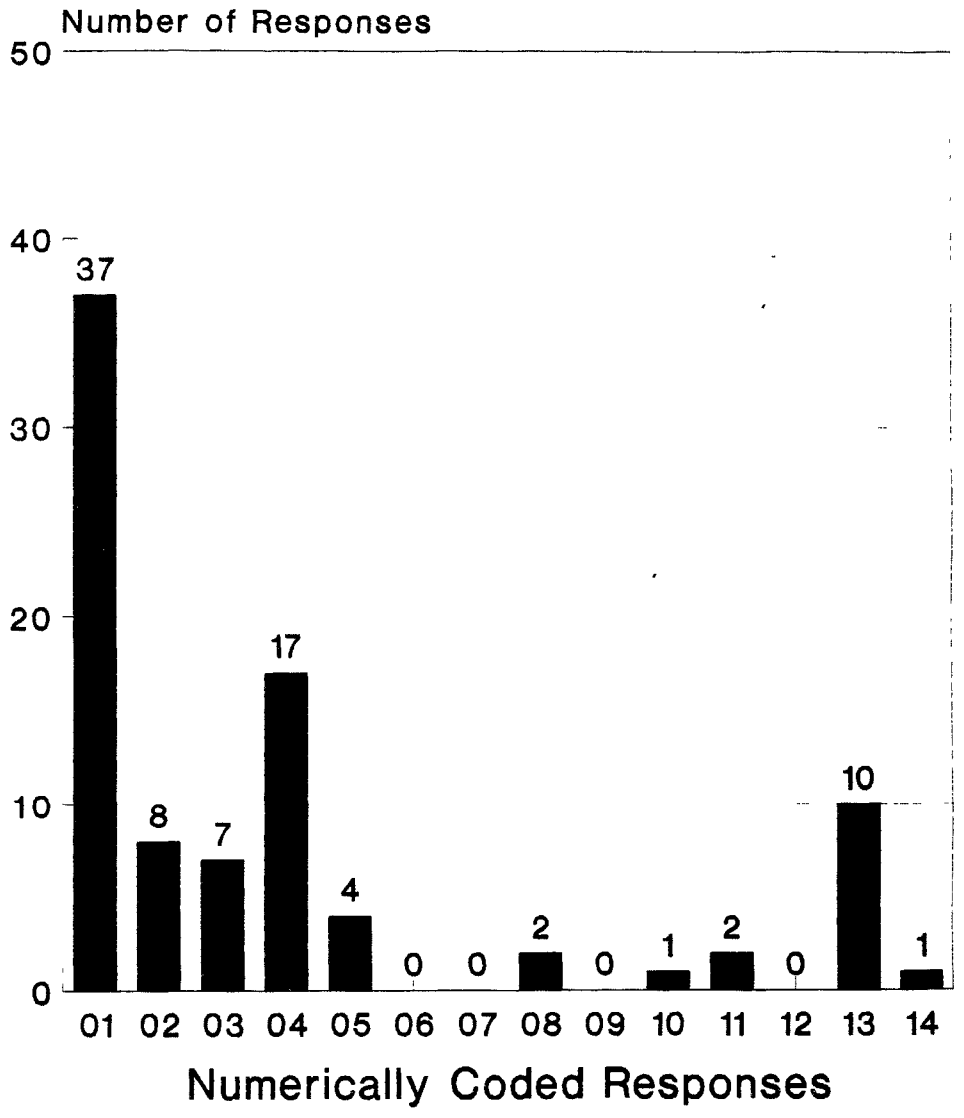


Figure 9: Other Coverage Within Family? 1990 Disenrollees, 1991 Reenrollees

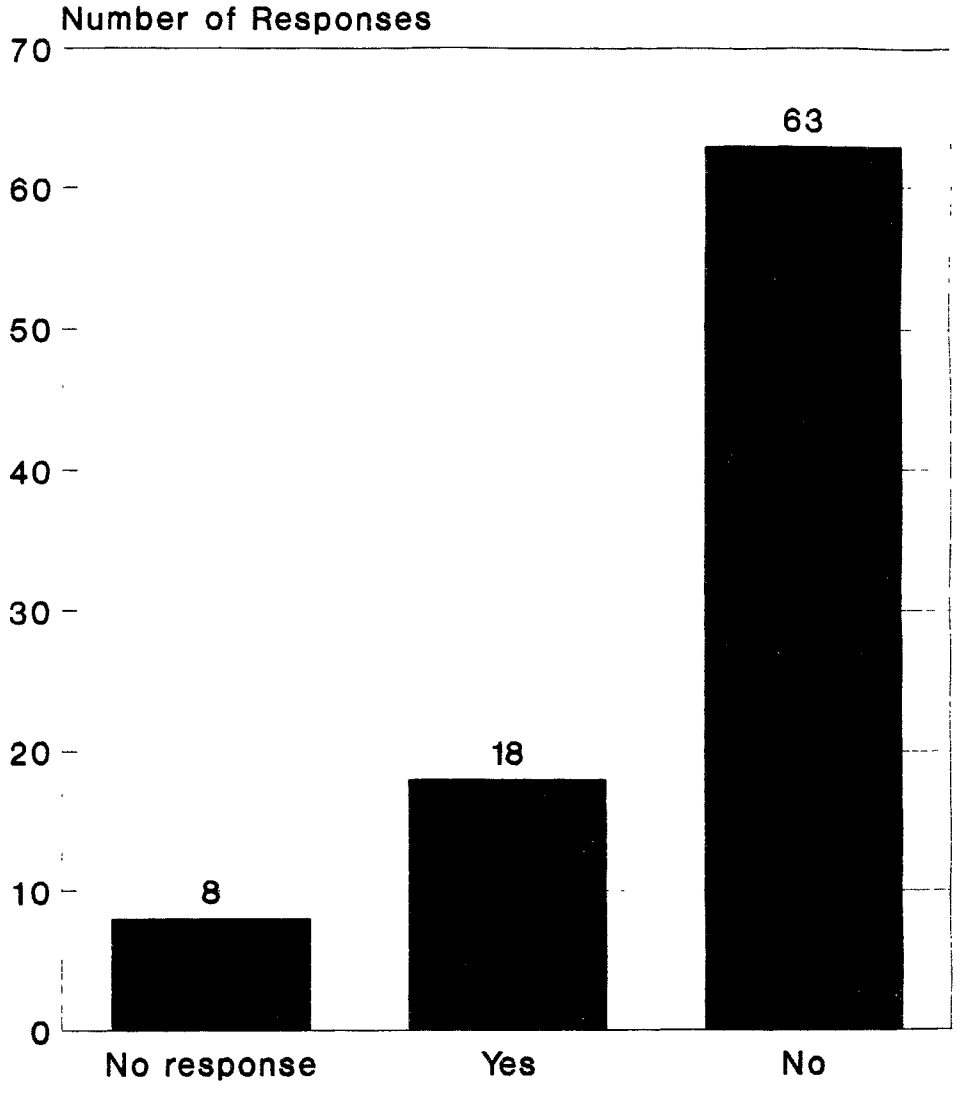
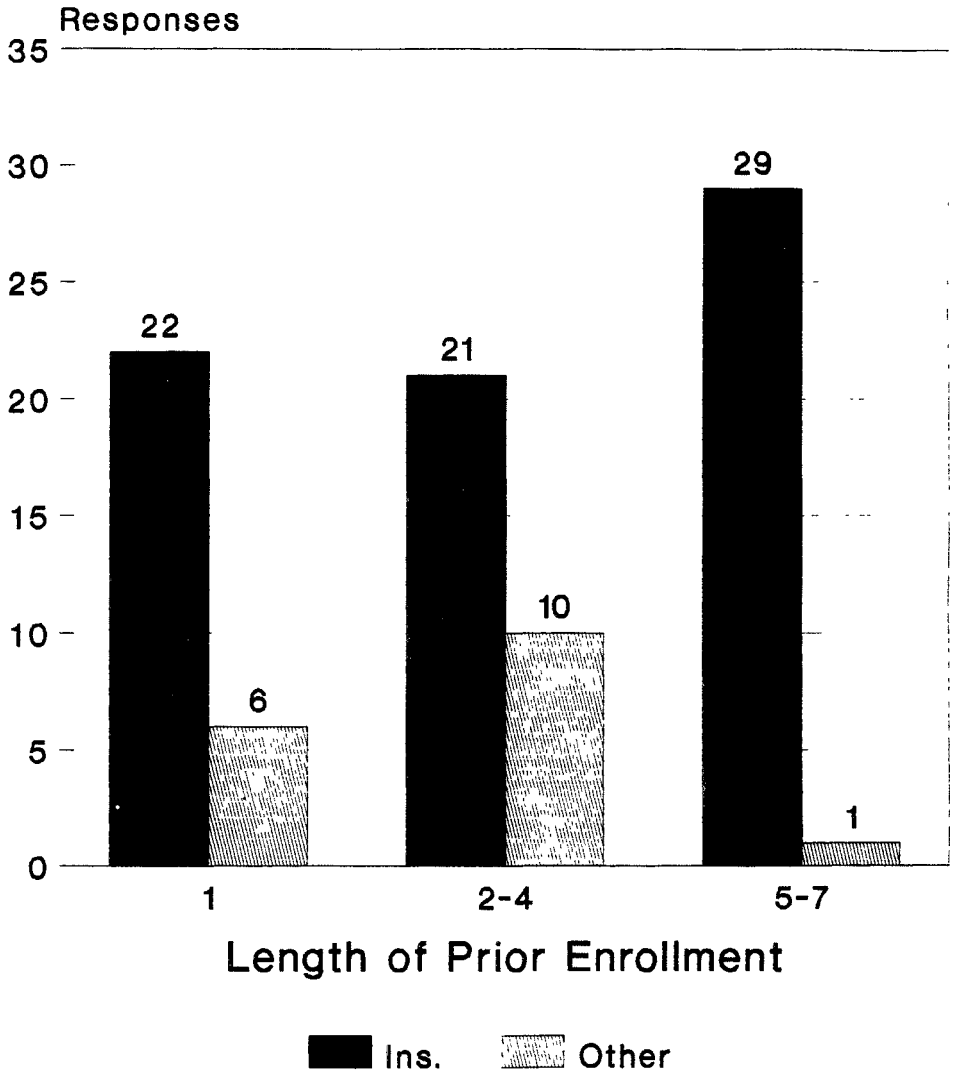


Figure 10: Reasons for Reenrollment by Length of Prior Enrollment



Note: data collapsed into 3 groups.

median family size of 3. The most frequent family size was 2, which appeared in 32 respondents (36%). Only seven respondents reported family size of five or greater. This data reports family members covered by Federal health insurance, which may vary from actual family size since the Federal employee's spouse may be covered under his/her own employer's health insurance.

Respondent's average experience with SWHP before disenrolling was 3.3 years, with a median of 3 years. The most frequent prior enrollment period was 1 year, as reported by 28 respondents (31%). Figure 7 resembles a bi-modal distribution for this demographic variable, suggesting that SWHP's Federal members are most likely to disenroll in the first three years after enrolling, and then less likely to disenroll until their seventh year of coverage.

Tables 6-9 cross-tabulate main reasons for reenrollment with family size, years of prior coverage, presence of other coverage, and reason for disenrolling, respectively. Only the variable "years of prior coverage" presents noteworthy data. Its significance will be explored later.

By observation, the data is strongly suggestive that the Federal families disenrolled and reenrolled for reasons associated with the "insurance characteristics" of the enrollment decision. Also by

TABLE 6. Main Reason You Returned to the Scott and White Health Plan. (By Family Size).

RESPONSE (Survey Code)	Family Size (#)				
	2	3	4	5	≥6
Lower monthly premiums (01)	15	11	8	0	3
Lower premiums and more benefits (02)	5	0	2	1	0
More benefits (03)	3	1	2	1	0
Lower out-of-pocket costs (04)	5	7	5	0	0
Convenient location (05)	0	2	1	1	0
Better quality of care (08)	1	1	0	0	0
No deductible (10)	0	0	0	1	0
Fits my budget (11)	0	0	2	0	0
No paperwork (13)	3	4	3	0	0
Did not have a choice (14)	1	0	0	0	0
Total	33	26	23	4	3

TABLE 7. Main Reason You Returned to the Scott and White Health Plan. (By Years of Prior Coverage).

RESPONSE (Survey Code)	Years of Prior Coverage						
	1	2	3	4	5	6	7
Lower monthly premiums (01)	11	1	9	1	2	7	6
Lower premiums and more benefits (02)	4	4	0	0	0	0	0
More benefits (03)	1	0	1	0	1	0	4
Lower out-of-pocket costs (04)	6	4	0	0	3	1	3
Convenient location (05)	1	2	0	0	0	0	1
Better quality of care (08)	0	1	1	0	0	0	0
No deductible (10)	0	1	0	0	0	0	0
Fits my budget (11)	0	0	0	0	0	0	2
No paperwork (13)	4	3	2	1	0	0	0
Did not have a choice (14)	1	0	0	0	0	0	0
Total	28	16	13	2	6	8	16

TABLE 8. Main Reason You Returned to the Scott and White Health Plan. (By Presence of Other Coverage).

RESPONSE (Survey Code)	Other Coverage?		
	No Response (0)	Yes (1)	No (2)
Lower monthly premiums (01)	5	9	23
Lower premiums and more benefits (02)	0	1	7
More benefits (03)	0	2	5
Lower out-of-pocket costs (04)	1	3	13
Convenient location (05)	1	0	3
Better quality of care (08)	0	0	2
No deductible (10)	0	0	1
Fits my budget (11)	0	0	2
No paperwork (13)	1	3	6
Did not have a choice (14)	0	0	1
Total	8	18	63

TABLE 9. Main Reason You Returned to the Scott and White Health Plan. (By Reason for Disenrolling).

Disenrollment Reason	Reenrollment Reason	
	Insurance Charact.	Other Charact.
Insurance Characteristics	63	15
Other Characteristics	2	1
Did Not Respond	7	1
Total	72	17

observation, Federal families disenrolling because of "insurance characteristics" are highly likely to reenroll for the same reasons. Sixty-three of the 78 Federal families who disenrolled for such reasons reenrolled for the same reasons (81%).

The overall results for the respondents are outlined in Table 10. Chi square results were not significant for demographic factors such as reason for disenrolling in 1990, presence of other health insurance, and family size, with p values ranging from greater than 0.5 to 0.93. Chi square results were significant for length of prior enrollment period, with a p value less than 0.01.

Hypothesis 1

Hypothesis number one stated: Reasons for reenrollment decisions among active Federal employees obtaining health insurance for their families through the Federal Employee Health Benefit Program in the Temple-Belton-Killeen area of Central Texas are dependent on certain underlying demographic factors.

Table 13 demonstrates that these variables are independent of one another, with p values ranging from greater than 0.5 to 0.93.

Hypothesis number two stated: Reasons for reenrollment decisions among active Federal employees obtaining health insurance for their families through

TABLE 10. CHI SQUARE ANALYSIS: PRESENCE OF OTHER HEALTH INSURANCE BY REASONS FOR REENROLLMENT (INSURANCE CHARACTERISTICS OR OTHER CHARACTERISTICS).

Other Insurance Reason for Reenrolling

Frequency Percent Row Pct Col Pct	Ins. 1	Other 2	Total
0 No Response	6 6.74 75.00 8.33	2 2.25 25.00 11.76	8 8.99
1 Yes	15 16.85 83.33 20.83	3 3.37 16.67 17.65	18 20.22
2 No	51 57.30 80.95 70.83	12 13.48 19.05 70.59	63 70.79
Total	72 80.90	17 19.10	89 100.00

Chi Square (1 degree of freedom) = .05

$p = .82$

(Methodology note: the eight families who failed to respond to the survey question regarding other health insurance were excluded from the Chi Square analysis.)

TABLE 11. CHI SQUARE ANALYSIS: FAMILY SIZE BY REASONS FOR REENROLLMENT (INSURANCE CHARACTERISTICS OR OTHER CHARACTERISTICS).

Family Size	Reason for Reenrolling		
Frequency Percent Row Pct Col Pct	Ins.	Other	
	1	2	Total
2	28 31.46 84.85 38.89	5 5.62 15.15 29.41	33 37.08
3	19 21.35 73.08 26.39	7 7.87 26.92 41.18	26 29.21
4	19 21.35 82.61 26.39	4 4.49 17.39 23.53	23 25.84
5	3 3.37 75.00 4.17	1 1.12 25.00 5.88	4 4.49
6	2 2.25 100.00 2.78	0 0.00 0.00 0.00	2 2.25
8	1 1.12 100.00 1.39	0 0.00 0.00 0.00	1 1.12
Total	72 80.90	17 19.10	89 100.00

Chi Square (2 degrees of freedom) = 1.48

$p = >.50$

(Methodology note: all family sizes above 3 were grouped together to facilitate the Chi Square analysis by creating a 3X2 arrangement.)

TABLE 12. CHI SQUARE ANALYSIS: YEARS OF PRIOR ENROLLMENT BY REASONS FOR REENROLLMENT (INSURANCE CHARACTERISTICS OR OTHER CHARACTERISTICS).

Years of Prior Enrollment Frequency Percent Row Pct Col Pct	Reason for Reenrolling Ins. 1	 Other 2	Total
1	22 24.72 78.57 30.56	6 6.74 21.43 35.29	28 31.46
2	10 11.24 62.50 26.39	6 6.74 37.50 41.18	16 17.98
3	10 11.24 76.92 13.89	3 3.37 23.08 17.65	13 14.61
4	1 1.12 50.00 1.39	1 1.12 50.00 5.88	2 2.25
5	6 6.74 100.00 8.33	0 0.00 0.00 0.00	6 6.74
6	8 8.99 100.00 11.11	0 0.00 0.00 0.00	8 8.99
7	15 16.85 93.75 20.83	1 1.12 6.25 5.88	16 17.98
Total	72 80.90	17 19.10	89 100.00

(Methodology note: several cells were grouped together to create a 3X2 arrangement: 1, 2-4 and 5-7 years of prior enrollment.)

Chi Square (2 degrees of freedom) = 8.40

p = <.01

TABLE 13. OVERALL RESULTS: CHI SQUARE ANALYSIS

	CHI SQUARE	SIGNIFICANCE
Reason for Disenrolling[20] versus Reason for Reenrolling[20]	0.007	$p = 0.93$
Presence of Other Health Insurance versus Reason for Reenrolling[20]	0.05	$p = 0.82$
Family Size versus Reason for Reenrolling[20]	1.48	$p > 0.5$
Length of Prior Enrollment[21] versus Reason for Reenrolling[20]	8.40	$p < 0.01$

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[20]The range of responses to these questions were collapsed into two categories, insurance characteristics and other characteristics, to facilitate Chi Square analysis and follow the model.

[18]The range of responses to this question were collapsed into three categories (1 year, 2-4 years, and 5-7 years) to facilitate the use of the Chi Square methodology.

the Federal Employee Health Benefit Program in the Temple-Belton-Killeen area of Central Texas are dependent on the length of prior membership in the HMO studied.

Table 13 shows the statistical significance in this relationship, with a p value less than 0.01. Figure 10 recasts the data in Figure 7, combining the seven levels of prior enrollment (1-7 years) into three (1, 2-4, and 5-7 years).

CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

Demographic factors are not related to reasons for reenrollment decisions among active Federal employees obtaining health insurance for their families through the Federal Employee Health Benefit Program in the Temple-Belton-Killeen area of Central Texas.

The length of prior membership in the HMO studied is related to reasons for reenrollment decisions among active Federal employees obtaining health insurance for their families through the Federal Employee Health Benefit Program in the Temple-Belton-Killeen area of Central Texas.

Limitations of the Study

The population in this study was limited to Federal families reenrolling in SWHP during the 1991 annual open enrollment period after having disenrolled during the 1990 annual open enrollment period. The subjects of this study were not randomly selected. Generalization of the results to the total population of HMO members in the United States may not be

possible. In fact, generalization of the results to the total population of HMO members in Scott and White Health Plan may not be possible, given the characteristics of the Federal Employee Health Benefit Program, particularly with respect to information sharing, and the breadth of insurance offerings.

Although the instrument used was adapted from models used with some regularity by the Scott and White Health Plan in evaluating its membership, the instrument has not been used in surveying other populations.

With respect to specific survey items, questions regarding reasons for reenrollment are perceptual rather than objective measures.

The relatively high percentage of unreturned or unusable responses also creates a limitation. Absent the use of other survey techniques for non-respondents, there is no assurance non-respondents share the opinions of respondents on the issues raised by this instrument. In addition, if non-respondents' opinions are similar in character to respondents' opinions, there is no assurance that description statistics for the combined group would resemble those for respondents. On the other hand, if the survey had been expanded to include the use of other survey techniques on non-respondents, such secondary responses, obtained

through other means, might have been affected by the difference in survey techniques.

Like any cross-sectional study, this study is unable to justify causal relationships. A longitudinal model would be required to determine the causal relationships between variables.

This survey was also conducted during a period of declining national and regional economic indicators, with declining real per capita income and rising unemployment. Although the subjects remained employed during this period, it is not reasonable to believe that the subjects were completely unaffected by poor economic conditions and frequent reports of same. Making enrollment decisions in such an environment may have contributed to the subjects' focus on "insurance characteristics", thereby skewing the results.

Applications for HMO Management

The results of this study tend to support previous research in this area, although most of that other research focuses on disenrollment, while this study focuses on reenrollment. Notwithstanding the limitations described in the preceding section, HMO members are clearly responsive to price changes in the various health insurance alternatives offered to them through employment.

Clearly HMO managers must pay close attention to the underlying cost structure of their health plans, since those costs must necessarily drive premium computations. At the same time, close attention should be paid to premium competition in the health insurance marketplace. HMOs must look for efficiencies wherever they can be found, whether in provider costs or in plan administrative costs. This cost pressure will continue to be acute for smaller HMOs since additional costs are spread over a smaller membership base.

Given the relationship between length of prior membership and reasons for reenrolling, HMOs should pay particular attention to their longer term members. On the one hand, as those members age, epidemiologists tell us that advancing age will bring greater health needs and concurrently higher provider costs. On the other hand, these members will have already passed through the period of startup utilization, and that decline may offset the impact of chronic disease in a large enough population.

Clearly HMOs must communicate with their membership with an eye toward identifying the reasons that long-term members who have a choice continue to choose a particular HMO. The acquisition of regular survey data on this population can not only help the HMO be responsive and retain that membership, but also

help the HMO in attracting additional members from those same population cohorts. Given the aging of America's population, it is not enough to focus on attracting newer, younger members. The aging population is not only growing proportionally faster than other population segments, it is also the group most likely to be interested in buying health insurance.

Recommendations for Future Research

There are several areas for further research suggested by this study. It would be interesting to continue to follow this cohort of Federal employees over a number of years, tracking their enrollment-disenrollment behavior as they age, develop chronic illness, and experience changes in family makeup.

Such a study should include personal interviews with family members on a periodic basis so as to illuminate the enrollment decision process further within the individual family units.

Appendix A

Original Cover Letter

first name ♦ last name ♦
address ♦

Dear title ♦ last name ♦

Our record indicate that you terminated you 1990 membership with the Scott and White Health Plan (SWHP), but rejoined us in 1991. We are happy to see you back! The SWHP is always pleased when a former member returns to us.

We have decided that the best way to find out why members come back to us is to ask them. Please take just a minute to help us with this survey. Any information you can give us will be used to help evaluate the health coverage we offer you each year.

It is essential to this study that your questionnaire be filled out and returned to us. A pre-addressed and postage paid return envelope has been enclosed for your convenience. All of your answers will be kept in complete confidentiality unless you choose to include your name.

Thank you for your time and help.

Reminder Postcard

Welcome back to the Scott and White Health Plan (SWHP). One week ago we sent you a questionnaire requesting your reasons for returning to the Scott and White Health Plan (SWHP) in 1991 after leaving it in 1990.

As of today, we have not yet received your complete questionnaire. If you have already returned your questionnaire, please accept our appreciation and disregard this reminder. If not, we ask that you please help us with this survey by completing and returning your questionnaire soon.

Any information you provide will help us evaluate the health care coverage we offer you each year.

Thank you for your time and help.

Follow-up Cover Letter

first name ♦ last name ♦
address ♦

Dear title ♦ last name ♦

Three weeks ago we wrote to you seeking your reasons for returning to the Scott and White Health Plan (SWHP) in 1991 after leaving it in 1990. As of today, we have not yet received your completed questionnaire. Any information you can give us will be used to help evaluate the health coverage we offer you each year. Please take just a minute to help us with this survey.

It is essential to this study that your questionnaire be filled out and returned to us. If you have already completed and returned your questionnaire, please accept our thanks and disregard this reminder.

A questionnaire and a postage paid return envelope has been enclosed for your convenience. Remember, all of your answers will be kept in complete confidentiality unless you choose to include your name.

We are very happy to see you back!

Survey Instrument

WE'RE GLAD YOU'RE BACK!

This survey is an effort by Scott and White Health Plan (SWHP) to better understand the reasons former members return to the SWHP for their health care coverage. Please answer all of the questions below. If you wish to comment on any questions or qualify your answers, please feel free to use the space in the margins. All of your comments will be read and taken into account.

Thank you for your help.

Q-1 What was the main reason you returned to the Scott and White Health Plan for your health care coverage? (Circle only one number).

1 Lower monthly premiums
2 Lower monthly premiums and more benefits
3 More benefits
4 Lower out-of-pocket costs
5 Other (Please specify) _____

_____

Q-2 For what reason(s) did you choose to return to the SWHP? (List as many reasons as you feel necessary.)

_____
_____
_____
_____
_____

Q-3 Which health benefits plan did you leave to return to the Scott and White Health Plan during the 1991 Federal Open Enrollment season? (Circle number of your answer)

1 PCA
2 Mail Handlers
3 GEHA
4 Blue Cross/Blue Shield
5 Postmasters
6 AFGE7
7 APWU
8 Other (Please specify)

_____

(over)

Q-4 Does another family member have health care coverage available through their employer?

1 Yes
2 No

Q-5 During the 1992 Federal Open Enrollment you will be most likely to. . .

1 Stay with the SWHP
2 Leave the SWHP

Q-6 Is there anything else you would like to tell us about your decision to return to the SWHP for your health care coverage? If so, please use the space below.

_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

Your contribution to this effort is greatly appreciated!

BIBLIOGRAPHY

REFERENCES

Actuarial Research Corporation. (1985). Demographic and utilization characteristics of hmo disenrollees (Contract No. HHS-100-84-0074). Washington, DC: Department of Health and Human Services.

Actuarial Research Corporation. (1987). Demographic and utilization characteristics of hmo disenrollees (Contract No. ASPE/HP84-044). Washington, DC: Department of Commerce, NTIS.

Arrow, K. J. (1963). Uncertainty and the welfare economics of medical care. The American Economic Review, 53(5): 941-973.

Benefits Watch Survey. (May, 1991). National Association of Private Psychiatric Hospitals.

Berki, S. E., and Ashcraft, M. L. F. (1980). HMO enrollment: who joins what and why: A review of the literature. Milbank Memorial Fund Quarterly/Health and Society, 58, 588-632.

Berry, L. L. (1983). Relationship marketing. Emerging perspectives on services marketing. Chicago, IL: American Marketing Association.

Boland, P. (1985). The new healthcare market: A guide to ppo's for purchasers, payers and providers. Homewood, IL: Dow Jones-Irwin.

DeFuria, M. C. and Shimshak, D. G. (September, 1990). Analyzing and measuring disenrollment/enrollment: The theory behind health plan choice models. Medical Interface, 14-25.

Dever, G. E. A. (1984). Epidemiology in health services management. Rockville, MD: Aspen Publishers, Inc.

Dillman, D. A. (1978). Mail and telephone surveys: The total design method. New York: Wiley-Interscience.

Enthoven, A. C. (1980). Health plan. Reading, MA: Addison-Wesley Publishing Company.

Enthoven, A. C. (1988). Managed competition of alternative delivery systems. Journal of Health Care Politics, Policy and Law, 13(2): 305-321.

Enthoven, A. C. and Kronick, R. (1989a). A consumer-choice health plan for the 1990s: Universal health insurance in a system designed to promote quality and economy. New England Journal of Medicine, 320(1): 29-37.

Enthoven, A. C. and Kronick, R. (1989b). A consumer-choice health plan for the 1990s: Universal health insurance in a system designed to promote quality and economy. New England Journal of Medicine, 320(2): 94-101.

Grazier, K. L., Richardson, W. C., Martin, D. P., and Diehr, P. (1986). Factors affecting choice of health care plans. Health Services Research, 20, 659-682.

Griffith, M. J., Baloff, N., and Spitznagel, E. L. (1984). Utilization patterns of health maintenance organization disenrollees. Medical Care, 22, 827-834.

Heisler, W. J., Jones, W. D., and Benham, P. O., Jr. (1988). Disenrollment from a prepaid group plan, a multivariate analysis. Medical Care, 21, 1154-1167.

Hennelly, V. D., and Boxerman, S. B. (1983). Out-of-plan use and disenrollment: Outgrowths of dissatisfaction with a prepaid group plan. Medical Care, 21, 348-359.

Ibrahim, M. A. (1985). Epidemiology and health policy. Rockville, MD: Aspen Publishers, Inc.

Juba, D., Lave, J. R., and Shaddy, J. (1980). An analysis of the choice of health benefit plans. Inquiry, 17: 62-71.

Lewis, K. (1984). Comparison of use by enrolled and recently disenrolled populations in a health maintenance organization. Health Services Research, 19, 1-22.

Long, S. H., Settle, R. F., and Wrightson, C. W., Jr. (1988). Employee premiums, availability of alternative plans, and hmo disenrollment. Medical Care, 26, 927-938.

Luft, H. S. (1978a). How do health maintenance organizations achieve their savings? Reason and evidence. New England Journal of Medicine, 298: 1336-1343.

Luft, H. S. (1978b). Why do hmos seem to provide more health insurance services? Milbank Memorial Fund Quarterly, 56: 140-168.

Luft, H. S. (1980). Trends in medical care costs: Do hmos lower the rate of growth? Medical Care, 18: 1-16.

Luft, H. S. (1981). Health maintenance organizations: Dimensions of performance. New York: Wiley-Interscience.

Maslow, A. H. (1943). A theory process of human motivation. Psychological Review, 50, 370-396.

Moustafa, A. T., Hopkins, C. E., and Klein, B. (1971). Determinants of choice and change of health insurance plan. Medical Care, 9, 32-41.

O'Connor, K. (1991). Risky business: HMOs and managed care. Business and Health, 9(6), 30-34.

Relman, A. S. (1990). Reforming the health care system. New England Journal of Medicine, 323(14): 991-992.

Rhein, R. W. (1978, March 6). HMO's: Feds vow to make them grow. Medical World News: 76-89.

Rosenberg, L. J., and Czepiel, J. A. (1984). A marketing approach for customer retention. Journal of Consumer Marketing, 1(2), 45-51.

Saward, E. W., and Greenlick, M. R. (1972). Health policy and the hmo. Milbank Memorial Fund Quarterly, 50(2), 147-176.

Schiff, R., Ansell, D., Schlosser, J., Idris, A., Momson, A., and Whitman, S. (1986). Transfers to a public hospital: A prospective study of 467 patients. New England Journal of Medicine, 314, 552-557.

Schneider, B. (1980). The service organization: Climate is crucial. Organizational Dynamics, 54.

Scotti, D. J., Bonner, P. G., and Wiman, A. R. (1986). An analyses of the determinants of hmo reenrollment behavior: Implications for theory and policy. Journal of Health Care Marketing, 6, 7-16.

Shimshak, D. G., DeFuria, M. C., DiGiorgio, J. J., and Getson, J. (1987). An analysis of hmo disenrollment data. GHAA Journal, 9(1), 13-22.

Sorensen, A. A., and Wersinger, R. P. (1981). Factors influencing disenrollment from an hmo. Medical Care, 19, 766-773.

Starr, P. (1984). The social transformation of American medicine. New York: Basic Books, 393-395, 430-436.

Sullivan, C. B., and Rice, T. (1991). Datawatch: The health insurance picture in 1990. Health Affairs, 10(2), 104-115.

Sutton, H. L., Jr., and Sorbo, A. J. (1983). Actuarial issues in the fee-for-service/prepaid medical group. Denver: Center for Research in Ambulatory Health Care Administration.

Tessler, R., and Mechanic, D. (1975). Factors affecting the choice between prepaid group practice and alternative insurance programs. Milbank Memorial Fund Quarterly/Health and Society, 54: 149-172.

Travis, M., Russell, G., and Cronin, S. (1989). Determinants of voluntary hmo disenrollment: An examination of consumer behavior. Journal of Health Care Marketing, 9(1), 75-76.

Weiss, B. C., and Senf, J. H. (1990). Patient satisfaction survey instrument for use in health maintenance organizations. Medical Care, 28, 434-445.

Weissert, W., Wan, T., and Pellegrino, L. (1980). Cost-effectiveness of homemaker services for the chronically ill. Inquiry, 3, 230-243.

Welch, W. P., and Frank, R. G. (1986). The predictors of hmo enrollee populations: Results from a national sample. Inquiry, 23, 16-22.

Wersinger, R. P., and Sorenson, A. A. (1982). Demographic characteristics and prior utilization experience of hmo disenrollees compared with total membership. Medical Care, 20, 1188-1196.

Wolinsky, F. D., and Marder, W. D. (1985). The organization of medical practice and the practice of medicine. Ann Arbor, MI: Health Administration Press.

Wollstadt, L. J., Shapiro, S., and Bice, T. W. (1978). Disenrollment from a prepaid group practice: An actuarial and demographic description. Inquiry, 15(2), 142-150.

Wrightson, W., Genuardi, J., and Stephens, S. (1987). Demographic and utilization characteristics of hmo disenrollees. GHAA Journal, 9(1), 23-42.